

Remarks

1. The Applicant is grateful to the Examiner for indicating that claims 2, 4 to 6, 13, 20, 21 and 24 are allowable and that claims 15 to 18 comprise allowable matter. However, the applicant has chosen not to amend the claims on this occasion, since, in the Applicant's view, the claims as presently pending are patentably distinguished over Seaholtz et al (US5812786).

2. The invention generally relates to an apparatus for providing a point to point digital subscriber line communication service over a point to point subscriber line from a line termination equipment disposed at a central station to a subscriber terminal. The line termination equipment and the subscriber terminal incorporate respective first and second management systems arranged to control and supervise the digital subscriber line communication service via messaging therebetween carried in an engineering operations channel (EOC) over the line. The line termination equipment and the subscriber terminal incorporate means for providing the engineering operations channel in the form of a sequence of ATM Adaptation Layer (AAL) minicells over the line.

The use of AAL minicells for the EOC management messages is unusual because point to point link level EOC messages are usually passed down protocol levels for transmission, not upwards to higher protocol layers. This means, as mentioned at the bottom of page 2 of the application as filed, that: "currently employed EOC arrangements suffer from the disadvantage that they are protocol specific and thus lack flexibility".

According to the invention, by transmitting such subscriber line link control and management messages as AAL minicells, the EOC messages can be regarded as being passed to a higher level protocol instead. The benefit resulting from this is

stated at the bottom of page 5 of the application as filed as follows: "by carrying the EOC channel in minicells, this channel is rendered wholly independent of the protocol or protocols employed for VDSL transport."

This independence is important because VDSL and similar transport protocols for point to point links can be installed and upgraded for each subscriber separately. Hence it is vital for the carrier organization to be able to manage many different varieties of such protocols efficiently. This can be achieved if the link management (EOC) messages at least are independent of the varieties of the link protocol in use by different subscribers by being carried in a separate engineering and operations channel (EOC) as taught by the present invention.

It follows from the above therefore that the EOC must comprise a separate channel independent of any payload channels or transport mechanisms employed for VDSL traffic between the subscriber equipment and the exchange.

3. Referring to column 15, line 65 through to column 16, line 15 of Seaholtz et al (US5812786), it is disclosed that *"All ADSL/AVR transmission, including signalling and control channels, is handled by the ATM network."* While data encapsulated in a stream of ATM Adaptation Layer (AAL) mini-cells can be packetized into ATM packets/cells for transmission over an ATM network, it does not follow that all ATM packets being transmitted across an ATM network comprise packetized AAL mini-cell data streams. Data can be packetized directly into ATM packets which is by far the most usual form of packetizing data for transmission across an ATM network.

In Seaholtz, there is no disclosure nor any suggestion that the signalling and/or control channels are specifically provided as AAL mini-cell data streams nor is it even implicit that this is the case. In fact, it is implicit from the disclosure in Seaholtz that *"All ADSL/AVR transmission, including signalling and control channels, is handled by the ATM network."* that data encapsulation occurs at the ATM packet

level without the use of any ATM Adaptation layers. It is also clear from Seaholtz that the signalling and/or control channels are not, in contrast to the present invention, wholly independent of the protocol used for ADSL/AVR transmission since all ADSL/AVR transmission including signalling and control channels uses the ATM protocol. Thus, Seaholtz does not disclose the arrangement of the present invention and does not provide the advantages associated with the claimed arrangement.

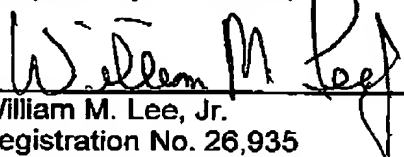
Thus, Seaholtz does not teach all of the claims limitations of the independent claims as presently pending and so such claims are not anticipated by Seaholtz.

Also, there is nothing in the disclosure of Seaholtz that would motivate a skilled addressee to modify it to use AAL mini-cells for the signalling and/or control channels since, even with such a modification, the signalling and/or control channels would be protocol specific to ATM and so no particular advantage would be gained.

4. In view of the foregoing, it is respectfully submitted that this application is now in condition for allowance.

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Respectfully submitted,



William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 214-4800
(312) 759-5646 (fax)

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